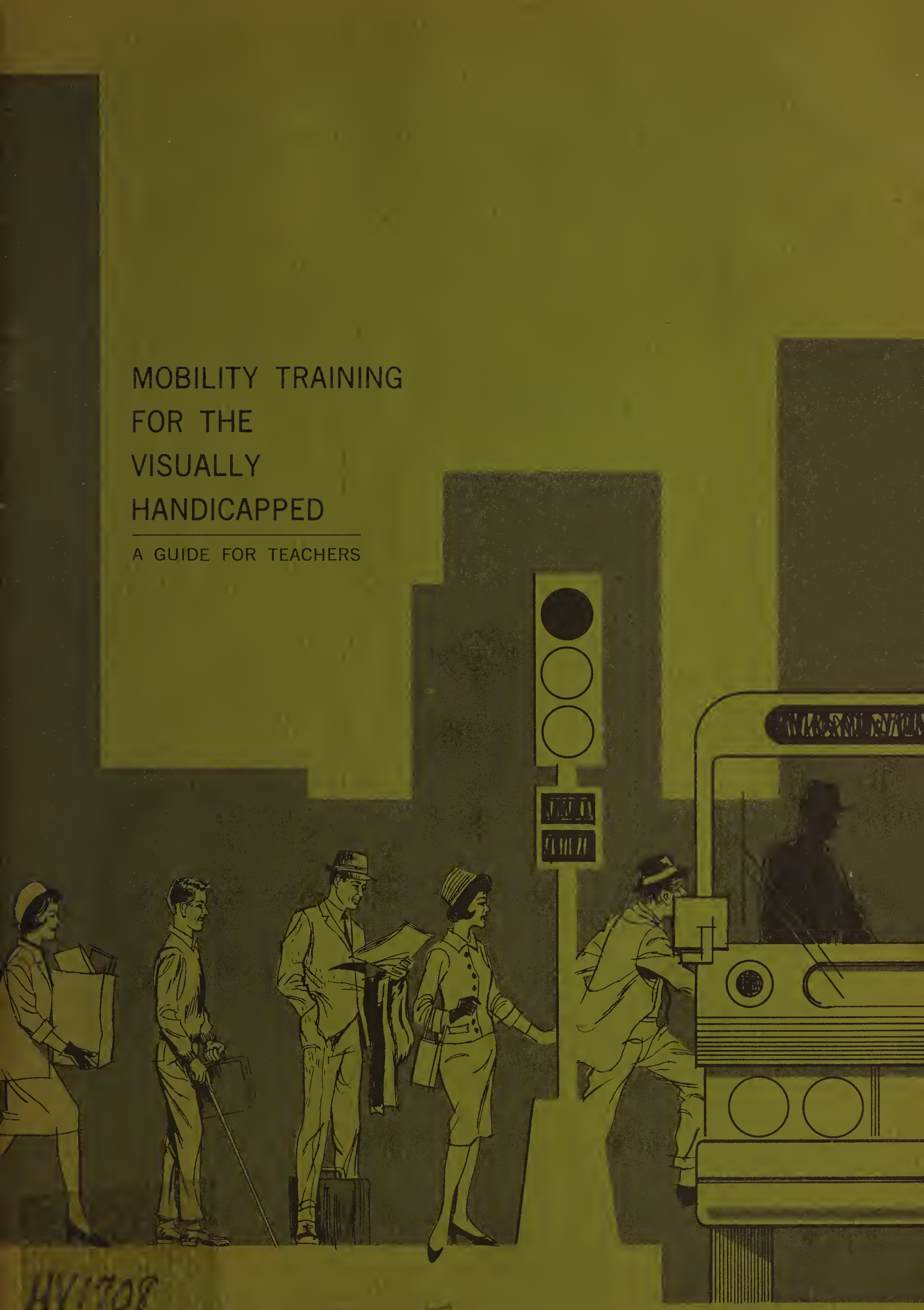
MOBILITY TRAINING FOR THE VISUALLY HANDICAPPED

A GUIDE FOR TEACHERS



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FOREWORD

This booklet is to be used as a guide for those who work with visually handicapped students to help them become aware of their surroundings, develop skills to interact with their environment and function comfortably in a socially acceptable manner. It is recognized that many visually handicapped children do not possess the skills and techniques one would expect a five- or six-year-old to have mastered. When such a lack of skill is evident, it is the responsibility of school personnel to evaluate the child's level of achievement, work to develop the skills which are lacking, interpret to the parents what the school is attempting to do, and enlist the parents' aid in working toward these objectives. Since the purpose of this pamphlet is to stress the need of training both in and out of school, suggestions, ideas, and recommendations for both teachers and parents have been incorporated and the interrelation of the two emphasized.

The Office of the Superintendent of Public Instruction is pleased to join with the Department of Children and Family Services and the Illinois State Library in publishing a series of guidebooks dealing with visually handicapped children. This particular booklet, "Mobility Training for the Visually Handicapped — A Guide for Teachers," should be of great value to educators in the State of Illinois.

Ray Page

Ray Page
Superintendent of Public Instruction

5/12/69 letter Request

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PREFACE

In the education and rehabilitation of the visually handicapped child, mobility — the skill required in moving about freely without sight — is primary. It is important not only for his education and school life, but for his life as a child and as an adult — at home, at work, at play — indeed, throughout his life. Because crucially important information concerning physical orientation and mobility was not yet available in sufficient detail as to be at the ready command of teachers, medical practitioners and other professional disciplines, the Office of the Coordinator of Visually Handicapped Services of the Department of Children and Family Services, was given a charge by the Coordinating Committee of Services to Visually Handicapped Persons to find a way to compile such needed information in readable form, and make it easily available when and with whom it would be helpful.

The Office of the Coordinator of Visually Handicapped Services was set up in the Department of Children and Family Services by agreements among those state departments or agencies having programs relevant to the needs of visually handicapped persons. The Coordinating Committee, composed of representatives of state agencies serving blind or visually handicapped persons is the vehicle by means of which joint planning and coordinated activity in this field takes place.

Members of this committee are administrators and professional associates in the fields of special education and rehabilitation and are thus deemed qualified to authorize this brochure and the use of the information herein contained. We are, therefore, grateful to the members of the Coordinating Committee.

The work of gathering material and assembling it in final form was accomplished by means of a subcommittee composed of medical practitioners, administrators, mobility specialists, social workers, teachers and parents of visually handicapped children to whom special thanks and appreciation are extended. Appreciation is also extended to the Chicago Community Trust for making available such financial assistance as was needed.

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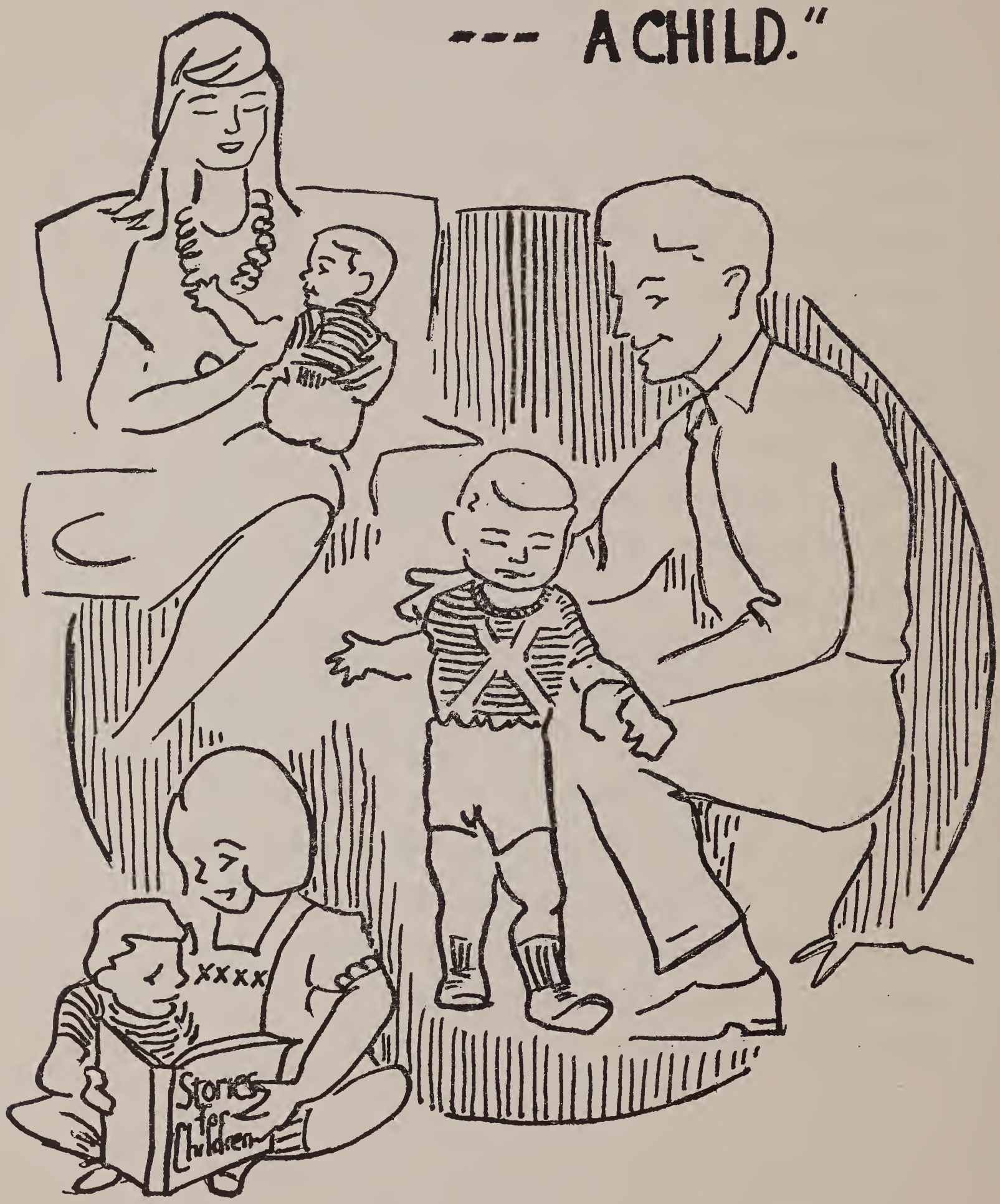
"A BLIND CHILD IS FIRST OF ALL

--- A CHILD."



INTRODUCTION

This book is a practical guide for mobility training for children whose major handicap is visual loss. Special adaptations will need to be made for children who have additional handicaps such as hearing loss, mental retardation, cerebral palsy, or orthopedic deficiencies. We direct this not only to the special teacher of the visually handicapped and the classroom teacher who may have such a child in a class, but also to all teachers coming in contact with visually handicapped children.

The material was drawn from the experience of teachers, supervisors, and rehabilitation practitioners who recognized the need to put together suggested procedures the teacher can use in teaching the child basic skills and preparing him for the mobility specialist. In addition, the teacher can use this material in interpreting to parents the needs and problems of the visually handicapped child.

Orientation and mobility training probably originated a long time ago when one blind person first taught another the ways he had learned to get around with a cane. Since then it has been refined until now it has developed into a specific technique taught by a mobility specialist. But this is not the whole story. The mobility specialist can only do his work to the best advantage when aided by the teacher and the parent of the visually handicapped child.

A serious visual handicap in a child limits his experiences and his development. With proper training, it does not prevent him from growing into a well-rounded, contributing member of his community.

To acquire the ability to learn, to experience, to think, to work, and to live a satisfying life, the child, as well as the adult with a visual handicap, must be free to move from place to place. This can be learned and is an important part in the total living process of the individual.

This booklet is not intended to teach mobility formally; this will be done by the specialists. What it does attempt to do, however, is show how the teacher is an important part of this total process of training for living with a handicap in a seeing world and for being free in spite of some physical limitations. The teacher starts where the child is, whether in preschool, grade school, or high school. The real team in teaching mobility and in making it a part of the child's experience is formed by the parent, the teacher, and the mobility specialist, with a social worker giving counsel when needed. To teach orientation and mobility effectively, everyone who works with the child must believe in the importance of a real, satisfying, constructive, adventurous future for the child.

Life is an adventure whether the individual is handicapped or not. The growth, development, and accomplishments of a child as he grows into an adult are the important considerations, not his handicap.

To the teacher, for whom this booklet is written, therefore, let us say, there is not only real hope in the education of the visually handicapped child, but you as a teacher can be a true guide and force in developing his future. Problems, which at first appear insurmountable, can frequently be resolved.

Many parents when they first discover that their child has a visual handicap, experience a natural sense of frustration and guilt which, if it continues over a long period, may result in overprotection and/or rejection which may manifest itself in overcompensation. Such attitudes on the part of the parents can limit the child's activity and curtail his general development and related mobility skills. Such parents will need help in understanding the child's needs and readjusting their attitudes toward the visually handicapped.

It can be shown that there are many people with this handicap who have gone on and made their mark in vocations, led successful lives, married, raised families, and created much of the kind of world in which we now live. We do not look back to why a visual handicap occurs, rather, we look forward to what can be done.

DEFINITION OF TERMS

There is a wide range in the degree of usable vision of blind and partially seeing individuals. There may also be inconsistency between the measured visual acuity of a youngster and his visual performance level. Such inconsistency may be directly related to mental ability, emotional stability, and self-confidence. To be effective, the teacher of the partially seeing must not only have full knowledge of the limitations of each student but also must give full attention to their implications.

The partially seeing student should be taught to use all sensory clues which will aid him in traveling. The degree to which the youngster finds it necessary to rely on such clues is closely related to the degree of visual loss, i.e., the less the loss of vision, the less the other senses are depended upon. However, all remaining senses are used at all times to some degree.

Because of this diversity of ability, it is felt that the terms blind and partially seeing are too limiting. Therefore, throughout the booklet, in most instances, the term VISUALLY HANDICAPPED is used to encompass all degrees of visual loss.

ORIENTATION is defined as an effective awareness of the interrelatedness of an individual with his physical, cultural, and social environment.

MOBILITY is the possession or use by an individual of formalized skills for negotiating within the environment.

Orientation and mobility really begin when the child first starts to move any part of his body and depend upon the early development of his remaining senses and his acquisition of an organized body of experience. Some consideration, therefore, must be given to the child's development, experience, and training at home long before he enters school. If there has been no preschool training, the teacher can be an invaluable help to the child and parents in emphasizing areas in which more practice is needed. In order to give the teacher resources to use with the parent in preschool training, this guide stresses some details in the life of the child at home. If, as often happens, the child does not naturally turn to the teacher for help, the teacher may seek the assistance of the social worker or counselor.

LEARNING IN THE HOME

Curiosity as a Motivating Force

Curiosity is a prerequisite for the development of an awareness of surroundings in the young visually handicapped child. Through awareness, he develops the ability to move about his environment. Curiosity is vital if the child is to grow from an egocentric individual to an outgoing, socially aware adult. Curiosity creates questions about one's environment; through seeking answers, learning is fostered. Even in the very young child, curiosity must be nurtured and developed, not discouraged. Because the visually handicapped child is unable to see objects from his crib or playpen, he should not be confined as much as a sighted child, but allowed to crawl more and to investigate freely. If it is necessary to confine the child to a playpen, frequent moving of the playpen should be avoided. Through permanent placement of the playpen as well as other household furnishings, the small child develops an awareness of his surroundings.

The child must be encouraged to become involved in all aspects and phases of family activity. Although there may be some difficulties, such as breakage, spoilage, or minor injury, in allowing a visually handicapped youngster to investigate freely, the many advantages of investigation and participation far overshadow them. The child should be given responsibilities and chores. He can learn to make his own bed, wash and dry dishes, set the table, dust, and take out the trash. Success in such small tasks builds his confidence in his ability to handle more complicated tasks as he matures.

As the child grows, he uses his hands to investigate and learn. The use of hands is absolutely necessary if the child is to develop an understanding and knowledge of his surroundings. He should not be told "no-no" as he investigates. If he is continually restrained, he may begin to develop the feeling that there is something wrong about handling objects. As the child moves about the home, parents should avoid grabbing him suddenly or pulling him (unless there is real danger). Even when the youngster bangs into a chair or table, he is seldom hurt. Furniture and objects must not be moved or placed with the intention of making the situation easier and more convenient for him. The child needs to learn where things are kept in his home and how to get them. The ability to maintain himself independently in his home is an excellent foundation for future mobility skills.

Learning about the Home Environment

Touching, handling, and discussing objects are important ways a visually handicapped youngster develops a definite understanding of his environment. Although at times a child may be given permission to touch or examine objects which the sighted child may not be permitted to touch, the visually handicapped youngster must understand the time, place, and limitation of such privileges. These limitations are determined by breakability, danger of injury, or violations of proprieties. For instance, the tactile examination of other individuals must be discouraged as it can be embarrassing to all persons involved. If a child has questions about human features, they can either be answered in a clear, concise manner or investigated in the privacy of his home. As the child investigates his surroundings, he needs to be given understandable definitions and descriptions of objects which he handles. In fact, everyone should talk to the infant and small child frequently and meaningfully in terms that the child is capable of comprehending and give meaning to his surroundings.

The visually handicapped child deserves to know and it is up to the parents or teacher to see that he does. "I don't have time," may be your plea. "It's hard enough to get my work done, let alone walk all over." However, time must be taken. Even though there are many things at school and about the home which continually need to be taken care of, it is possible to relate such activities to the academic program or to the needs of the home.

It is important to think about which activities can be incorporated in the child's daily living routine to aid him in developing an awareness of and an involvement in his surroundings. The importance of the interrelationship of sensory clues cannot be overestimated. The child needs help in seeing the relations between all clues which give him an understanding of the totality of his environment.

Encourage the child in the proper setting to: crawl about the home; play on the floor; climb on the furniture to investigate height, width, and length; play with pots and pans or other household utensils; examine food in all stages of preparation, raw, peeled, in the final state before serving, and on the plate.

He should also be encouraged to dress himself. As early as possible he should be taught to use: buttons, zippers, laces, hooks, and other items.

Explain new experiences to the child before he becomes involved in situations which may be frightening to him. These include such activities as: the application and use of disinfectants and medicines, getting a haircut, being taken out-of-doors, and a visit to the doctor or dentist.

INTRODUCTION TO THE WORLD OUTSIDE

The child's introduction to the out-of-doors can be a pleasant experience. If the parents help their youngster become familiar with the yard and sidewalks, ultimately he can function safely and comfortably in his neighborhood. They should show the child where objects are in the yard and their relation to each other and especially to the house, and describe the sounds about the neighborhood. They should be sure to identify for the child such sounds as: the barking of a neighbor's dog, the traffic on the street, the sounds of children playing, the sounds of air-conditioners, radios, factory whistles. They should point out distances between sounds, the direction of movement of sound, and the relation of sounds and distance.

Parents should also give many opportunities to investigate where the walks to the houses meet the sidewalks, the trees, bushes, plants, posts, fire-hydrants, and all objects which make up his block. They can clarify the height and width of these objects, discuss the difference in the composition of materials, and explain the purposes of each object. The differences in the entrances to the different homes along the street can be pointed out, such as the fact that there are bushes in front of one house and not another, or steps at the beginning of a walk, or a front fence.

They can teach the child how to find the home of friends who live on the block by following the walk and taking note of landmarks.

As the child matures, his physical world expands. As his world expands, so do his needs. To meet these needs, parents can encourage their youngster to become involved in as many different types of expe-

riences and community activities as possible. These experiences would include the normal activities of family living. Community activities may include visits to stores (of all types), homes of family and friends, parks and playgrounds, houses of worship, restaurants, museums and zoos.

During the course of trips, the parent and child walk in a normal, relaxed manner. The parent should permit the child to walk at a rate comfortable to him so that he can be alert to his surroundings, converse about things he sees and feel comfortable and safe. (For specific details, refer to section on mobility.)

Visits to Stores

When the child and parent visit a store, be sure that the parents encourage the child to examine the items which are purchased for the family. There should be discussion of entrances and exits to the store, escalators and elevators, weights and sizes, types of containers, boxes, cans, cartons, jars and bottles, costs and taxes, types of objects sold in specialty stores, textures of materials, and utility of articles.

Wherever possible, the parent should let the child participate in the final selections. This is especially true in regard to the clothes the child will wear.

Visits to Homes of Friends

One of the most valuable experiences a child receives from visiting the homes of family friends is that of learning to maintain himself in a different situation. The small, visually handicapped child should feel welcome in the home which he visits. The parents can do much to help the host understand the capabilities and limitations of the youngster. They should also help the child understand the modifications of behavior necessary when in someone else's home. In particular they should help the child feel comfortable in asking for assistance where necessary, learn socially acceptable graces, learn socially acceptable restraints, and recognize the limitations set on all persons when visiting in another's home.

Visits to Parks and Playgrounds

A pleasant learning experience for every child is a visit to a park or playground. This is especially true for the visually handicapped child. He should be introduced to all aspects of the park, so he will genuinely enjoy the experience. Play equipment can be shown to him so that he will understand how it works and be safe using it.

As the parent and the child walk through the park, they can discuss the trees, flowers, walk arrangements, and related landmarks.

As the child is introduced to different parks and playgrounds, he should be made aware of the sizes of different parks. It will be helpful to discuss the facilities available in different kinds of parks and show the relationship of these to each other and to the park as a whole. Some of these are entrances and exits, tennis courts, field houses, swimming pools, and playground equipment.

Enrollment in Nursery School

When possible, the small child should be enrolled in nursery school, and take an active part in all phases of the program. Only normal precautions should be taken so as to prevent injury. He should be expected to join in group games, use of playground equipment, arts and crafts projects, and field trips.

Visits to Houses of Worship

If the family attends a house of worship, the visually handicapped child should be expected to attend as well. So that the child feels comfortable in church, it is advisable for the parent to take the youngster at a time when it is unoccupied and allow him to explore freely the general features to learn interrelationships of the pews, pulpit, altars and other important places and things.

Visits to a Restaurant

Acceptable table etiquette should be taught in the home. When taking the child to a restaurant, the parents should point out to him that additional types of behavior are appropriate. The menu can be read to him or he can read it himself if he has enough vision. He should be encouraged to make his own selections. Other aspects of restaurant etiquette to cover are use of special glasses, goblets, and silver, tipping, and paying the check. Also point out the physical setup of the restaurant, cash register, coat rack, counter, booths, tables, and other fixtures.

Visits to a Museum or Zoo

In taking a youngster to a museum or zoo, it is valuable to inform the center of the intended visit. If the center is aware that a visit is planned, its staff is frequently most willing to make special arrangements for the visually handicapped youngster. They will plan a tour and lecture which will permit the youngster to examine objects which would not be available to him otherwise. Such a tour can be informative and a worthwhile experience for the child.

In Rural Areas

Families in rural areas have a wealth of learning experiences at their doorsteps. The child can have specific tasks, such as gathering eggs, feeding chickens, stringing fence, helping to maintain equipment, and similar chores. So that the child will be aware of the size of the farm, the parent and child can walk about the perimeter of the pastures and fields.

Peer Group Associations

It is beneficial to promote peer group associations. The home can be interesting and attractive to all young people. Friends of the child, both sighted and visually handicapped, should be made to feel welcome and comfortable. This can be done through having toys and games available in a place where the children will not be fearful of damaging something of value.

Parents should encourage the child to join clubs and activities where he will be involved with youngsters of his own age. Organizations, such as scouting, church activities, youth groups, 4-H, and Junior Achievement are but a few of the many in which a youngster can be involved.

The peer group must be helped to understand the modifications necessary as a result of a visual handicap by explanations of why the adaptations are necessary. Wherever possible, the visually handicapped youngster should be the one to make the explanations. If this is not possible, then the parent, teacher or some other understanding adult can do so.

FEARS AND ANXIETIES

It is natural for a child to approach a new situation with curiosity and confidence. This initial curiosity can be easily stifled when the child begins to reflect the abnormal fears of his parents. These fears of parents come from many sources. Fear of injury, of social stigma, and the unknown are but a few of the fears which parents of visually handicapped youngsters have and which can be easily reflected in their youngsters. Even though a parent may not put his feelings into words, a child is frequently aware of them through actions and interpretations of the parent's attitudes. This is not to say that a child should not develop a normal, protective fear. He must be aware that certain situations are dangerous. However, an abnormal, overprotective attitude can impede the normal, socially acceptable development of the child.

For his own protection the child should be taught the normal fears of playing in the street, pulling things from the stove, and playing near open stairs.

Abnormal fears which are instilled by overprotective parents or society are fears of bumps or falls, spilling, breaking, getting lost, going at a normal rate of speed, and failure.

Although fears may originate in the home, they may be fostered by society. When such fears restrict the satisfaction of normal needs and desires, other less socially acceptable forms of behavior may be manifested, such as rocking, hand flailing, jumping in place, passiveness, hostility, and withdrawal.

Through control and elimination of abnormal fears, the youngster develops the confidence and self-assurance which are fundamental for good mobility.

Teachers dealing with a visually handicapped child frequently are overly concerned about the safety of the youngster because of a lack of knowledge and understanding. As long as there are no medical reasons for a child to have limited activities, the teacher can feel confident in encouraging him to take part in all aspects of the school program, observing normal precautions.

The teacher must be sure the visually handicapped youngster knows, understands, and observes such safety rules as keeping to the right in halls, carrying sharp objects at the side and pointed downward, and not playing near open stairwells and fire escapes.

The fears and anxieties of the visually handicapped high school student are probably similar to those of his sighted classmates. The anticipation of moving from the self-contained classroom of elementary school to the larger high school with departmentalized arrangement of classes creates anxiety in all youngsters.

There are some differences in the degree of fears and anxieties experienced by the visually handicapped. Lack of visual interpretation of what peers are doing, how they are dressing, and other accepted signs of conformity compound the usual problems of high school students. The visually handicapped student may be more concerned about fitting in with the group socially.

Much of the visually handicapped youngster's success in social relations depends on the impression he makes as he moves about the building. The youngster who moves gracefully and with confidence finds less difficulty in contacting classmates than one who lacks mobility and orientation skills. Where anxiety is detected, the teacher can consult with the school counselor for interpretation and aid.

The teacher can also be instrumental in allaying the fears and anxieties of the associates of the visually handicapped youngster. She

can help the visually handicapped youngster to be involved in classroom and extra-curricular activities, take part in committee work, and eat lunch with his peers. She should encourage all social contacts and encourage interest and participation in sports.

PARENT-TEACHER COOPERATION

It is the responsibility of the classroom teacher to alert the resource teacher, parents, and counselor to problems the youngster may have in the classroom so they can work together in settling them. Good rapport between home and school is vital. The teachers who work with the child should explain to the parents what they are doing with and for their youngster, as well as encourage the child to express his own feelings and needs. They may also give suggestions to the parents as to how to follow through at home. It is not for the teacher to criticize what the parents have done in the development of their youngster. Rather, it is up to the teacher, who works with the child, to help the parents understand the problems of their youngster and realize that many of these problems are problems of normal child development rather than a result of the visual handicap.

POSTURE AND GAIT

Developing Good Posture and Gait

Early development of good posture and gait in visually handicapped children is important for good health, social acceptance, and mobility efficiency. The lack of visual stimulation prevents the child from being able to imitate his parents and peers in such commonplace activities as sitting, standing and walking. Left to his own, he develops ways of solving his problems and satisfying his needs, ways which may lack grace, safety, and efficiency. Improper gait and odd hand positions may be caused by uncertainty concerning the environment. This can be ameliorated through good mobility techniques constantly used. If a child knows that he is safe and secure, he does not need to ghost walk (extend both hands in front while walking) or to take small hesitant steps or develop any of the other gait and posture problems.

Anomalies of posture may include rocking, hanging the head, flailing the hands, round shoulders, head bobbing or twisting, or drawing into a quasi-fetal position. Gait problems may include imbalanced walk, feet inverted (pigeon-toed) or everted (duck walk), walking on heels or toes, unequal stride, continually leading with the same foot, shuffling, dragging the toes, walking with the knees bent in a crouched position.

Developing proper posture and gait, or overcoming faults, requires help from the parents. More patience is needed since the visually handicapped child may take longer to walk than his sighted peers. Some of the ways parents can aid the child to learn to stand and to walk properly are:

Demonstrating walking and crosspatterning with a jointed doll.

Placing the child's feet on parent's, left foot on the father's left foot, right foot on his right foot, with the child facing forward. The child then walks with the parent who takes normal, but somewhat shorter steps.

Allowing the child to walk independently while guiding himself around the perimeter of a chair, sofa, or table.

Physically manipulating the child's legs and feet to demonstrate proper movement.

Walking with an exaggerated movement (goose-step) to the beat of a kitchen pot.

Having the child walk to a cookie or sweet. This can be used to encourage the child, but should be used judiciously and never to the point of tormenting the child.

Best results occur when these exercises are made as interesting as possible. Parents should try to devise games. Many kinds of animal walks aid in the development of good movement and coordination such as the duck walk, ostrich walk, inchworm, dog walk, and similar imitations. The physical education teacher can also be helpful.

These exercises should include the development of the concept of right and left from the beginning. A wrist watch, bracelet or ribbon around one wrist may serve as a reminder in differentiating between right and left.

Parents should be sure to stay within the tolerance span of the child; working too long is usually more detrimental than helpful and develops negative attitudes in the child. Ten to fifteen minutes daily is usually adequate for young children.

It is also important that the child have good walking posture. Frequent reminders may be necessary for him to keep his head up, shoulders back, and feet straight. Care should be taken not to belabor the reminders. Permanent improvement seldom occurs overnight. Progress is likely to be slow and gradual, and there will be times when no progress seems to be made. It is often best to stress one point at a time so as not to subject the child to too much strain. For example, one might

first work on keeping the feet straight, then taking normal-sized, even steps, and later keeping the back straight and head up, followed by the arm swing.

As the child attains competence in walking about his house, he should be taken for walks in the neighborhood. A young child is held by the hand, as would be normal for any child. After the toddler stage, the child can hold the parent's wrist and later the upper arm just above the elbow. (See guide technique in the mobility section.)

The following technique is used only to guide and should not be used for support. To encourage the child to properly support and balance his own weight, a handkerchief or short length of rope is used; the parent holds one end and the child the other with several inches of free play in between. This gives the child security but forces him to completely balance and support himself.

The walking speed should be set by the ability of the child. Pulling him faster than he is able to walk produces fear and improper gait. As confidence and skill develop, the pace may be increased, even to an occasional run.

After the child has learned to walk effectively, he can be taught to hop. This combined with the walking step produces a step-hop, step-hop, which is skipping. This re-enforces the concept of right and left, improves physical development, and teaches a skill which is a normal part of childhood.

Correcting Faults of Posture and Gait

Many of the techniques used in developing good posture and gait may be used as corrective measures. To help a child to understand what is meant by standing straight, let him stand with his back against a wall with his heels about one inch away from the baseboard. Both shoulders, the buttocks, and elbows should touch the wall with the head just slightly away from it. This is not to imply that a youngster must stand or walk like a ramrod, but merely serves to give him an approximation of the acceptable standard of posture.

Corrective techniques which cause the child a loss of dignity, should be avoided, particularly in front of peers. Such props as a yardstick inserted in the back of the shirt to keep the back straight, or a card to keep the head up should not be used.

Many people are hesitant about correcting bad habits on the grounds that they are symptoms rather than causes, and that stopping one bad habit merely results in the child finding some other outlet. This may be true. However, the substituted behavior is usually more

socially acceptable than the mannerism being corrected. Often these mannerisms are indicative of unused nervous energy which could be spent to the child's advantage in healthful activities in and out of school. Teachers and parents can lead the child into many of the outdoor and gymnasium activities of their sighted peers. No special equipment is needed for the visually handicapped youngster to jump ropes, climb the bars, dance, tumble on the mats, swim, and do calisthenics. Fathers and physical education personnel can be challenged to make adaptations so the child can practice basketball, bowling, races, archery, and related activities. Corrective activities for gait include running, jumping, skipping, jumping rope, walking to musical rhythms or with a book on the head. Improvement in walking may occur faster when the child can concentrate on the mechanics of walking without fear of injury. Allow him to do this by walking in place or marking time.

Insufficient movement in the hips, knees or ankles may be improved by running in place, pretending to climb the stairs, climbing a rope or actually climbing the stairs. Again, during these activities, there should be continual verbal reminders.

The development of alternate arm-leg coordination may be aided by an exaggerated swing of the arms and legs as in the previously mentioned goose-step or by pointing to the opposite foot while walking, i.e., as the left foot goes out, the right hand should point to it, and vice versa.

Physical Education

A good physical education program is important to all children, but it is even more important to visually handicapped children who usually have less opportunity to be active. Gymnastics, bowling, jumping rope, roller skating, wrestling, walking to rhythms, and dancing are excellent kinds of exercise. For those with some vision, the medical records should be checked for the ophthalmologist's recommendation on physical activity. Even those who have other problems can participate to some degree, and the stress should be on the positive rather than on the limitations. For those with limited experience and knowledge in physical education, there are a number of exercise sets on recordings designed for all children, at nominal cost, which include complete instructions. (See Appendix E.)

LEARNING DIRECTIONS AND SPACE RELATIONSHIPS

A knowldege of spatial orientation begins in the crib when the child learns the interrelationship of his arms, legs, and body. If he is allowed to move freely and encouraged to explore about the house,

he soon develops an idea of the interrelatedness of objects there. If restricted in his movements and led from one place to another, the relationships will be vague and distorted.

The frequent and meaningful use of directional terms such as up, down, in, out, over, under, between, above, below, behind, in front of, left and right can begin at an early age. Directions can be incorporated into the normal daily conversations, such as, "Let's put on the left shoe." "The fork is on the left side of your plate." The same approach can be used with any of the other direction words.

A child who has learned the face of the clock can have the position of objects described in the terms of the hour hand. It is assumed that he is always facing twelve o'clock. If he is sitting in a chair, the door may be at two o'clock and the television at nine o'clock.

Compass Directions

When the child seems familiar with his environment, compass directions may be introduced. He must know which way his front door faces, whether the street in front of his house runs north and south or east and west. His awareness of the direction he is facing at all times is vital to his orientation.

In school, a knowledge of directions helps the student become familiar with his classroom. He needs to know what direction he is facing when he enters the room and when he sits at his desk. He should know the relationship of his desk to the teachers, to the globe, to the reference books, and other schoolroom furnishings. Outside of his room, he should learn the direction of the water fountain, the library, lunchroom, and other places.

Compass directions can be introduced by teaching them in relation to the body. Face the child north and discuss south being behind him. With his arms raised at his sides, his right hand points east and his left hand west. Introduce which directions are opposite. Have him turn to face the various directions. This easily becomes a game, particularly when more than one child is involved. Often the children will, of their own accord, begin to jump in the directions called by the teacher. They can practice making one-fourth and one-half circle turns using sound or light as reference points. This may all sound too simple, but for a blind child it requires much repetition.

Distance

With the addition of distance to the directions, the teacher can take real or imaginary trips, playing "Where am I?" For instance, "I am

facing south with my back against the teacher's desk. I turn west (or left) and walk about ten feet, turn north and walk about five feet. Where am I?" In such a game the children are motivated to move, learning directions and distances and the basic thinking process necessary for being a good traveler in the future.

The next step is to extend the route from the classroom and to include landmarks. For example, "I leave the room and turn south. At the end of the corridor I go west to the water cooler, cross to the left side of the wall and trail to the third door. Where am I?" Those who do not get the right answer can walk over the route with the teacher.

Trips Outside of School

If time and regulations permit, the teacher should extend the child's world to include the area surrounding the school. The first trip logically is from the front door of the school to the sidewalk in front of the school. The next trip is up and down the city sidewalk, then returning to the school's door until the child learns that he has a choice of directions leading to different corners, unless the school entrance is on a corner. The parkway strip, or boulevard, between the street and the sidewalk must be explored if there is one.

It is important to talk about the intersecting sidewalks at the corners as they are walked over. The teacher may have to make a map to show how the sidewalks cross. When familiarizing the child with the corner in a residential area the teacher should always walk all the way to the curb, make an about face (180°), and, following the shoreline of the sidewalk and lawn to the intersecting sidewalk, make a right or left turn in the direction desired. Too often blind children have the idea that the sidewalk around the block is like the perimeter of a rectangle and are not aware of the short strips that extend from the intersection of the walks to the streets.

Making a Map

There are many ways to help a child develop concepts of the out-of-doors. One way to do this is to have the child participate in making a simple map.

All that is needed is a table, a roll of masking tape and an object to represent the school, such as a flat rectangular box. A small hole is cut in the box to represent the relative position of the exit door in relation to the school. The box is then taped to the center of the table so that the door faces the right direction. (North is always away from the student just as it would be on a print map.) The teacher can then

cut off a piece of tape to represent the length of the block and place it in front of the school for the sidewalk. If a short walk connects the door to the city walk, that is put on, too. As the child learns about the sidewalks that connect to the walk in front of the school, they are added. The sidewalk behind the school is added last to form a rectangle with the walks extending slightly beyond the point of intersection at the corners to represent the parts of the walk going to the curb. This construction should all be done with the children after they have walked over the area with the teacher. The initial map work should be done with the sidewalks rather than the streets, since it is on the sidewalks that the children walk: Later on it can be pointed out that there are walks along the sides of any given street, i.e., "We are walking north on the east side of Maple Street." The sidewalks are referred to as the walks along a given street.

The children need to know the names of the streets, whether they run north and south or east and west, what direction they are from the school, and whether they are main streets or side streets. Some confusion may occur in teaching that streets that run north and south must be east or west of the school, and vice versa.

After each segment is added to the map, the student should walk over the area again with the teacher to reinforce the ideas. As a new walk is learned, it is added to the map until it shows several blocks in each direction. The spaces outside of the rectangles are the streets, and they can be made with some different textured material.

To develop the idea of "parallel," the teacher needs the assistance of a sighted guide. While the guide walks with the child along the sidewalk, the teacher walks parallel to the child on the opposite side of the street, maintaining conversation or making some identifying noise. The child then learns that, although the teacher is close and walking the same way, they will never meet.

Model cars can be used on the map to show the movement of traffic, which side of the street must be driven on, and how cars make turns. The differences between a stop sign, a stop light, a yield sign, and other signs should be discussed.

Before each trip outside, the teacher can tell about the route that they will take. The children can trace the route on the map as far as they have learned it. Upon returning from the trip, the new part is added to the map. Any other significant landmarks, such as the fire house, bakery, and statues, may be put on the map.

Children who have learned the basic concepts of maps may progress to maps which show only the streets. This is a more abstract

concept, because it serves only as a general guide without actually showing him where he must walk. Following this comes the teaching of maps which show only the main streets, as do most city maps. A much larger area, possibly the entire town, can be included.

Older youngsters can learn about the street numbering system. This includes knowing where the numbers start; that in most cities there is one full hundred allotted per block, although the numbers rarely go above the 60's or 70's, and that odd numbers are on one side and even numbers on the other side of the street. They should know the meaning of their house and school addresses in relation to significant streets and places. They should also know that many numbers are missing in the sequence of house numbers, because the number means the approximate position on the land rather than being allotted to the house itself. Using the guide technique, the teacher can walk along the street with the child, and call off the house numbers as the houses are passed.

USING SENSORY CLUES

The teacher should note that there is no automatic or inherent sensory compensation for the loss of vision. The visually handicapped child must learn to use his other senses as substitutes for his visual loss. The proficiency with which the student uses his remaining senses depends largely upon training and practice.

It should be further noted that multiple handicapped students have additional problems. The visual loss may be a secondary problem if the child is mentally retarded or emotionally disturbed. Also, the loss of hearing, the loss of balance or tactual impairment greatly complicates the child's adjustment to his visual loss.

Residual Vision

Many visually handicapped students who are, by definition, legally blind have varying degrees of usable vision. Actually, the percentage of visually handicapped individuals who are totally blind is very small — less than 10 per cent. Residual vision varies from student to student, ranging all the way from light perception to enough sight to read large print and to move about adequately under ideal conditions. It is very important for the teacher to understand the student's visual potential.

Those students, with light perception only, can use bright lights in the hall, windows, and doorways, or car lights and street lights at night for orientation and for taking direction. Students who have object perception can, under lighting conditions favorable to their vision prob-

lem, usually avoid running into chairs, desks, individuals in the hall, trees, posts and other large and well-defined objects. Although these individuals will probably not be able to describe the object in any detail, it is obvious that even this amount of vision is extremely helpful in learning correct mobility techniques.

Some students classified as visually handicapped may, nevertheless, be able to see quite clearly under ideal lighting conditions. Some eye diseases curtail vision in bright light but are less obstructive in subdued light, or the reverse may be true. Some children have a fairly clear visual area around the periphery of the eye. Others have a very narrow central area of vision. It is essential to know what the student sees and cannot see and under what conditions and circumstances he functions best. The teacher should evaluate the visual potential of each student individually. This can be done by asking the student what he sees and by talking with him about what he does to use his residual vision. Further knowledge is gained by observing the student in action and by talking with his ophthalomologist and studying the eye report. After the student's problems are understood, an evaluation should be made as to ideal situations and lighting conditions. The student should be helped and encouraged to use what vision he has to the best advantage.

Hearing

Hearing is second in importance only to vision for concepts of space and distance. It is the only sense, other than vision, that can be exercised at a distance to provide knowledge about the student's greater environment. A student must be able to identify many sounds which he learns to use in his day-to-day mobility activities. He can learn to take directions from footfalls in the hall or on the sidewalk, cars on the street or crossing the intersection, the sound of an exhaust fan at the end of a hall, conversation in a classroom, the squeak of the playground swing, the sound of dishes or the cash register in a cafeteria, or the typewriter in the office. These and scores of other sounds help him orient to direction.

A student also learns to estimate distance by listening to such sounds as a car horn down the street, the diminishing sound of tires as a car pulls away, someone talking at the other end of the hall or across the playground, the sound of church bells, or a train as it runs along a distant track. A student can be encouraged to pay attention to these sounds, to learn about distance and direction, by playing games which involve estimating them, and reporting what he hears, indicating how far he thinks it is to the source of the sound and in what direction it lies. Where possible, the student should be

permitted to walk to the source of the sound in order to reinforce his concept of distance and space relations, and to tactually examine and identify, where feasible, the source of the sound.

Auditory Object Perception (Facial Vision) — Perception of sound waves reflected by nearby objects.

The student is aware of sound waves being reflected from an object relatively close by and is thereby aware of the object. He may perceive a wall, tree, post, or almost any isolated large object by being aware of sound waves reflected or echoing from the object.

While object perception serves an important function in that it gives the student a sense of being a part of an environment filled with things and in some instances can alert him to a hazard or landmark, still it should not be overly dramatized or romanticized. This perception must be integrated into the travel techniques and thus become a general mobility skill. A student can practice this technique by approaching a wall and periodically estimating his distance from the wall as he approaches. He can walk along a hallway, pointing out the open doors as he passes; he can walk along the sidewalk listening for trees or posts near the walk; he can also practice listening to buildings that border along the sidewalk, indicating when the building stops and an open area commences. Practice of this technique usually results in the student's being able to perceive increasingly smaller objects and increasingly greater distances. The limitation rests in the individual.

Tactile Perceptions

Tactile information can be obtained through the feet, the hands, or the cane as an extension of the hand. Also, certain information concerning the environment is obtained through the skin, such as air movement and variations of temperature.

Much identifying information about travel environment can be received through the student's feet: the texture and conditions of walkways — brick, concrete, gravel, and earthen; the tilt of a walkway on a filling station apron; the sloping of the walk just before a curb; landmarks and orientation points, such as cracks in the walk, a change from one material to another, or tar joints; rugs in the hall; a mat before a door; change from tile to wood. These and scores of other clues to the nature and condition of terrain can be obtained through the feet.

The cane in the hand can give the student much of the same information as his feet and, in addition, afford an examination of an extended area. For instance, the cane can find and identify hazards and landmarks that lie along either side of the walkway. The cane gives

the student the advantage of being alerted to conditions ahead. Therefore, the student needs to combine all of the information he receives through his feet with that of the cane in order to have the best possible knowledge of the immediate travel terrain.

The hands are the best way for the visually handicapped student to identify and classify objects and things along his travel route. He may examine objects to identify landmarks, take direction, or understand characteristics, functions, and reasons for objects along his travel route. The freedom to examine thoroughly things encountered and talked about stimulates curiosity and motivates learning about the environment.

Kinesthetic, or Muscle Memory

The development of this sense is extremely important to the visually handicapped student. After the student has traveled a designated route over and over, he develops, through kinesthesia, an awareness of distance traveled and degrees of turn.

The student should practice walking a given distance many times until he develops a feel for it. The distance can be measured in feet, or it can be relative from one landmark to another. After the student has developed some facility in being aware of distances traveled, the teacher can complicate the training by introducing a turn or angle in his travel route. The student should practice this until he has achieved a fair degree of accuracy. Proficiency in this area is very important in his familiarization process.

Olfactory Sensation

A keen sense of smell, along with an alert awareness of odors and their sources, can be very helpful to the travel student. Many odors serve as landmarks as he walks along: the peculiar smell of oil and gasoline of a filling station; the smell of food emitting from a restaurant; or the odor of kerosene flares at a construction site. In a store, there are distinct olfactory clues at the cosmetic counter, the shoe department, and the lunch counter. The smells of a drug store, a bakery shop, a coffee counter, or a popcorn stand are all unique.

The odors that are noted as the student walks along serve as vital reinforcements for all of the other clues of which he is aware and which he is using to travel safely.

FAMILIARIZATION

A knowledge of the area in which the visually handicapped student must travel eliminates much of the fear of injury and embarrassment.

With increased confidence and security, the student requires less assistance, has less need to avoid unpleasant situations and has less need for defensive postures or gaits.

Familiarization involves helping the student become aware of distances, directions, turns, landmarks, and other clues that enable him to move from one place to another. It also involves an awareness of possible dangers such as open stairways, doors that open outward into the hall, or objects that project outward at head level. Useful clues include the fire extinguisher, doors, textural differences in the floor or walls, sounds, open corridors or windows, bright lights, and playground noises.

Familiarization should precede independent travel to new situations. The parent should familiarize the child with the area surrounding the home; the teacher should show the student the home room, the layout of the school and, if possible, the area around the school.

A child in nursery or primary grades should be allowed to explore the room at will while the teacher describes the objects being discovered. Information is given frequently and in small doses as the need occurs.

By the time a student is in the intermediate grades he is ready for a more formal introduction to new situations. On his first day in a new school the teacher should, if possible, meet him at the entrance of the building and escort him to the classroom, describing turns and clues along the way to give him an idea of the relative position of his classroom in the rest of the school. Upon arriving at the room, the following is suggested:

1. Have the student stand squarely in the entrance and give him a verbal picture of the room.

2. Walk to each key object in the room, the teacher's desk, his desk, the windows, globe, and other objects, and tap the object to give an auditory clue.

3. Have the student point to each object from the doorway; then have him walk to each one and back to the door.

4. Go to the teacher's desk and repeat the above three steps. Then do the same for the next key object. It is not enough just to walk the student around the room; the interrelatedness of objects must be stressed if the student is to have a working knowledge of the area. It is better to familiarize the student with a new area without the presence of other students, to avoid possible embarrassment.

5. As the student masters the key points in the room, other significant objects may be added. These objects may be labeled in braille or large print and the labels removed as the objects are learned.

These same basic procedures are applied to learning the position of the classroom in relation to the rest of the school. The student should be familiar with the part of the school in which he will be functioning. This is a rather limited area for young students but expands to include the entire school as their needs increase. As an incentive, children may be allowed to act as messengers to areas they have mastered. These areas should include the office, gym, lunchroom, janitor's closet, and any classes to which the student goes.

The teacher must decide for the individual student whether the familiarization with the washroom, shower, locker, as well as other places he needs to know about, should be done by the classroom teacher, by another teacher of the same sex, or by an older student.

To be meaningful, familiarization must be followed by independent travel. Not all performances are perfect. The child should be allowed to make mistakes and then find out how to correct them himself. The teacher should caution other teachers to be reluctant about giving assistance, to allow the student to develop self-confidence and skills.

In traveling to new areas, it is important to stress maximum use of such landmarks and clues as differences in brightness or color in different sections of the school, smells of the lunchroom, shops, and janitor's closet, and tactual clues such as changes in floor texture, ramps, or wall textures.

Orientation to the lunchroom food line should occur after the student has learned to balance objects on a tray. This can be done in the classroom. Then:

1. Use the guide technique or walk alongside the student and go through the lunchroom procedure while the lunchroom is empty.
   a. Discuss how students line up at the entrance.
   b. Take the route through the food line; locate utensils, discuss how to inquire about choices and order, find the location of the milk, and how and where to pay.
   c. Take the route to the tables; explain layout so student can have a choice of seating, if permissible.
   d. Take route from the tables to the disposal area and out of the lunchroom; explain the proper place for paper, silverware and dishes.

2. Have the student go through the entire procedure carrying an empty tray. Ask him to discuss what will be happening as he goes through the food line.

3. Encourage the student to sit at different tables and to associate with a variety of friends.

Orientation to the regular classroom should also take place, if possible, without other students in the room to minimize stress. It is the same as familiarizing him with his home room. But, in addition:

1. Give special placement for particular needs, such as front-row seating for myopics, seating in the rear of the room for the child with narrow-angle or tunnel vision, or lateral seating for students with good peripheral vision. Otherwise, the student should be seated in the same order as the other students.

2. Discuss the student's responsibility in an integrated class situation for:
   a. Coming to and leaving class independently.
   b. Arriving on time and not being dismissed before the other students.
   c. Caring for his own books, materials and equipment.
   d. Learning to accept or decline help gracefully.

3. Be sure the sighted or partially sighted do not do too much for the blind student.

In any type of familiarization, hard and fast rules are seldom possible. If the route to be learned is complex, only a part of it may be given at a time; then the student may be allowed to try it himself. Those with some vision may require little or even no familiarization, while others may require considerable time for each portion. The teacher should be on guard for those students with variable vision, observing them in a variety of circumstances.

The student's self-concept, experience, and the degree of independence he has been allowed also affect the amount of time and effort that have to be expended. The teacher may have to teach some students to use their hearing or remaining vision. Sheltered students may require considerable patience. Competent and experienced students may never need more than a verbal description.

Children who have had vision until or beyond school age usually have had enough visual experiences to have developed many concepts still foreign to those with less vision. Their familiarity with many basic concepts often enables them to adapt more readily to new situations. Concepts such as horizontal, vertical, cross (intersect), how cars move,

parallel (as with sidewalks on opposite sides of the street), and how a stoplight works have already been developed. Those who have had vision for a longer period of time tend to have better developed concepts necessary for travel; however, this does not necessarily make them better travelers.

The teacher should observe the students to see if they tend to have problems in certain areas rather consistently. The usefulness of a particular clue may have to be reevaluated. What may seem like an excellent clue to a sighted person may have little value to the visually handicapped student; conversely, good clues may be overlooked. If in doubt, solicit suggestions from the students. Better yet, put on a blindfold and try it yourself.

ORIENTATION AND MOBILITY SKILLS

Formalized mobility skills are referred to in this booklet as basic skills rather than pre-cane skills. These basic skills can be taught by the teacher in cooperation with the mobility instructor whenever one is available. For some children with limited ability, these skills constitute all of their formal training. They should not be given the idea that they are receiving only a part of something, but rather, something which is in itself, complete. For the majority of children, basic skills provide a solid foundation for cane travel.

To all visually handicapped children, the goals of mobility training are safer, more efficient, more graceful, and relaxed travel.

The amount of formal training needed by an individual child depends on a number of factors: the amount of residual vision, visual memory, intellectual ability, self-concept, sensory efficiency, previous sensory learning, other handicaps, and prognosis. Determining the needs of each child requires careful judgment.

Learning mobility skills should begin as soon as possible. Even very young children can use trailing and direction-taking coupled with auditory clues. It is difficult to enforce the use of techniques in an area in which the child is familiar. Elementary school children can take turns being the leader when going to the washroom with the other children following in single file. As the children become more familiar with the building, they can take longer trips, and may eventually be messengers for the office.

The degree of success that the child ultimately achieves with the mobility instructor depends upon the foundations laid by parents and teachers.

Secondary school children not previously exposed to basic orientation and mobility techniques need the same introductory training as the elementary school child. In the adolescent group, social pressures to conform have an effect on mobility performance. This may cause reluctance on the part of the youngster to use good travel techniques, such as the hand and forearm techniques or the cane. It is the teacher's job here to convince the student that he makes a better and more graceful appearance with proper mobility techniques. This is particularly hard for high school students.

Using the Sighted Guide

The roles of the student and the guide:

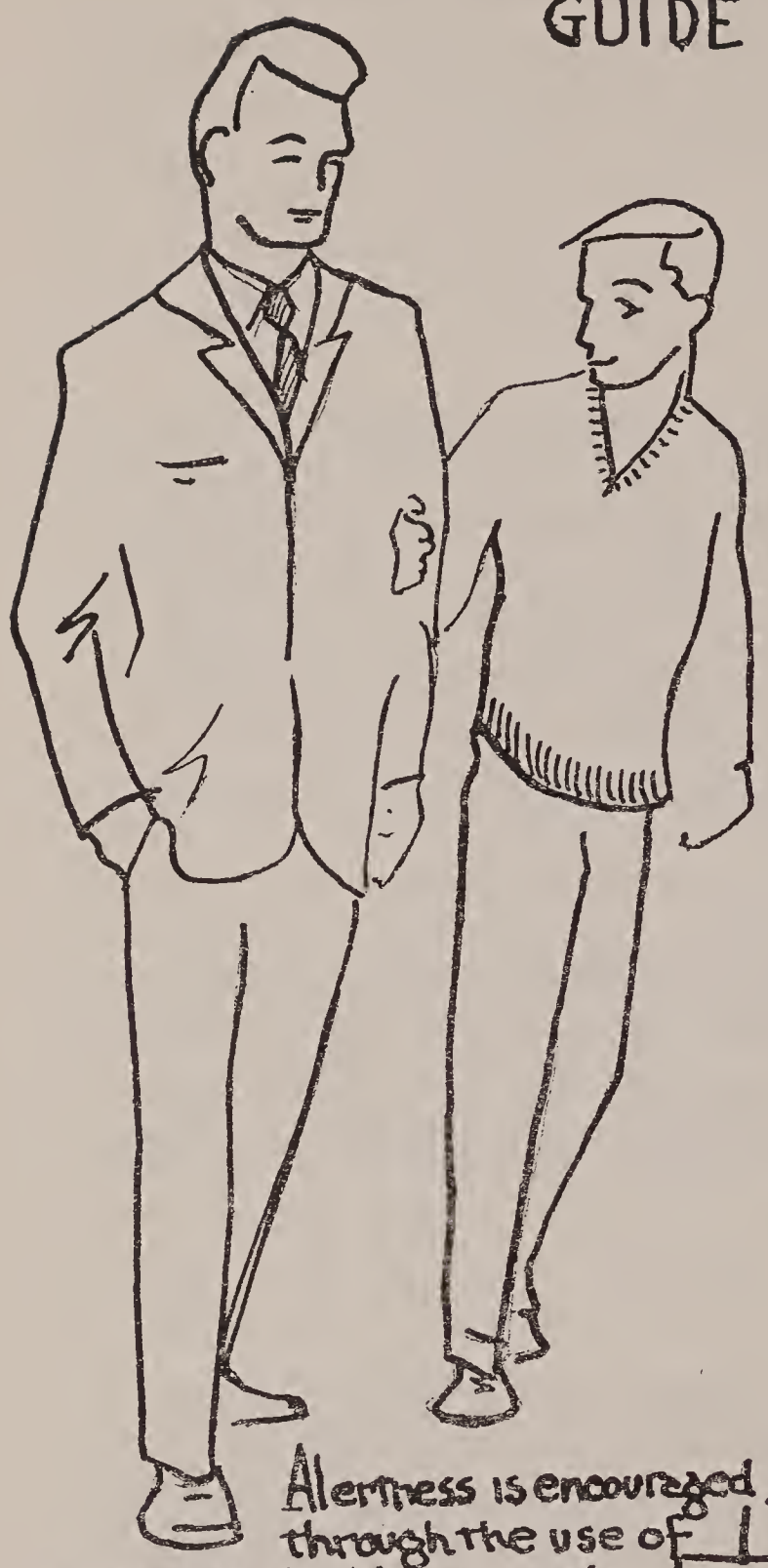
1. A greater degree of independence should be the goal in teaching the use of the guide. The student must make his needs known and be responsible for the way the travel proceeds. He should be aware of the route being taken as well as the significant landmarks, buildings, and points of interest along the way. If possible, the student should determine the route to be followed. When he is with a guide, he should speak for himself in all matters that concern him and not be just a passive follower.
2. The guide's function is to be a substitute pair of eyes. It is important that he be open, direct, and unobtrusive in imparting information. He must anticipate situations in advance and be prepared for appropriate actions. As they go along, the guide can give information about the route and the surroundings in an interesting manner. A patronizing manner should be avoided at all times.

The Guide Technique

This technique is the logical beginning for mobility training to familiarize the student with his surroundings. It is also used later with other techniques taught by the mobility instructor. Dog guide agencies recommend the guide technique as a prelude for using a guide dog.

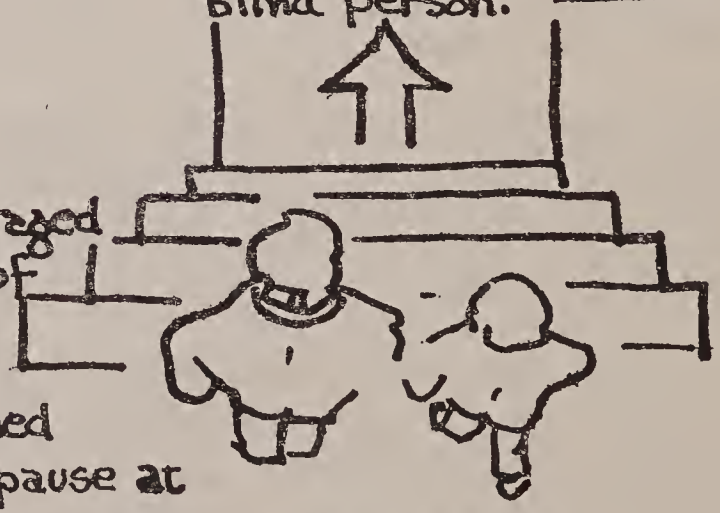
1. The student takes the guide's right arm with the left hand, or vice versa, just above the elbow, with the thumb on the lateral side (outside) and the fingers on the medial (inside). Younger children who cannot comfortably hold the guide's arm in this way can grasp the wrist. The upper part of the student's arm should be parallel and close to his side. The forearm should be parallel to the ground. This position will automatically place him one-half step behind the guide for normal walking.

THE USE OF A SIGHTED GUIDE



If a blind person remains a half-step behind the guide he will be ready to anticipate most of the changes within his environment. Ups and downs as well as lateral movements are transmitted from the guide to the blind person.

Alertness is encouraged through the use of correct methods of "team travel".



Stairs should be approached at right angles. A slight pause at the top can alert the blind person of the descent.

2. Dealing with doorways, narrow openings, crowded or dangerous places:
   a. The guide indicates to the student the approach of a doorway by clasping his arm against his side or by moving the arm back slightly. This is a signal for the student to extend his arm straight out and move directly behind the guide. This increases his distance from one-half step to one full step. At the beginning verbal directions are necessary, but these can be gradually eliminated.
   b. Until the student can distinguish for himself, the guide should indicate whether the doors open to the right or left, in or out.
   c. In passing through a doorway, the student may hold the door for himself by placing the palm of his free hand against the center of the door.
   d. If the door is on the wrong side to be properly held, i.e., the student is holding the guide's left arm and the door is on the right, he should switch to the guide's other arm. This is done by letting go of the arm that he is holding and moving across the back of the guide, picking up his opposite arm with the other hand.
   e. The guide should be careful not to swing the student around abruptly into a wall or post and should exercise particular caution when going through a narrow opening.
3. Using washrooms
   a. Washbowl. After approaching the washbowl, the guide moves one of the student's hands forward a few inches to touch the front edge and places the other hand on the spigot and the handles. He also shows the student the towels and wastebasket, touching the containers with the back of his hand.
   b. Commode. The guide leads the student until his legs come in contact with the front edge and then tells him where to locate the paper and the flush handle. It may be necessary to place his hand on these objects.
4. Using chairs
   a. In an open area the chair is approached from the back, and the guide touches the student's free hand to the back of the chair. To avoid an awkward appearance, the student should move to the side and check the seat with the back of his hand for contour, objects and armrests. He can then move around to the front and sit down.
   b. Along a wall, the approach is from the front until the student's legs touch the front of the chair.

5. Ascending and descending stairways

   Until the children have developed confidence in themselves and in their guides, they may be hesitant. Practice should begin on a good, indoor stairway, perhaps one with which the student is already familiar.

   a. Ascending. The stairway is approached squarely so that the toes of the guide are near the bottom riser. The guide stops and allows the student to move forward until his toes are near the riser. The guide then steps upon the first step while the student hesitates. As the guide ascends the second step, the student steps up on the first. They continue up the stairs together with the student remaining one step behind the guide and in step with him. Upon reaching the top, the guide hesitates long enough to allow the student to step up the last step. In continuing, the guide steps out and the student resumes the normal walking position, one-half step behind the guide. Again, with some students it may be necessary to inform them that the top of the steps has been reached. If necessary, the child can hold the guide's wrist, instead of the elbow, while ascending the stairs.

   b. Descending. Again, the stairs are always approached squarely. In this case, as in many others, the guide must think ahead and anticipate what is to be done as well as what the student may do. In a cautious, but normal, manner the guide moves up to the edge of the first step so that the student's toes are near or just over the edge. The student then hesitates to allow the guide to step down the first stair and begins down as the guide starts on the second. If necessary, the student may slide his hand up the guide's arm to descend more comfortably. The guide hesitates at the bottom to allow the student to take the last step. They then continue on in a normal manner. Though these techniques must be used cautiously and with explanation at first, as the student gains familiarity with the technique and the guide, the pace may be speeded up. The student learns to take many clues from the movement of the guide, allowing some of the detail in these techniques to be eliminated. The deciding factor here, as always, is the needs of the student.

Basic Skills of Independent Travel

Trailing

1. Trailing is primarily an indoor skill. It is defined as the act of using the back of the fingers to follow lightly over a straight

surface (i.e., wall lockers, desks, tables) to determine one's place in space, to locate specific objects, and to get a parallel line of travel (direction-taking).

2. Position. The body is about eight inches away from the wall for normal walking. The arm to be used is raised forward about 45° and kept straight at the elbow. The fingers are relaxed but almost fully extended (straight) with the thumb against the hand to prevent catching. If the wrist is bent down slightly, the tips of the fingers will not strike or catch objects.

3. Procedure. The student walks at a fairly normal rate, maintaining good posture. The end portion of the last two or three fingers should slide lightly along the wall and desk. This trailing technique is also used to take a direction from known objects, to cross open areas, as in using the teacher's desk to locate one's seat.

4. Negotiating curbs. The procedure for curbs is exactly the same as for ascending and descending stairs. One additional problem may be caused by rounded curbs. It may be necessary for the guide to turn or detour a few steps so the student can approach the curb as squarely as possible. This gives the student an exact knowledge of the location of the curb. Additional information about a broken curb, or a higher than normal step may be given. In preparation for future travel with a cane, traffic patterns can be discussed, and the student can decide when it is safe to cross.

5. Entering a car. The student can engineer his own actions if he is told which way (right or left) the vehicle is facing and if one hand is placed on the door handle and the other on the top of the car to inform him of head clearance. If confusion occurs, more information can be given.

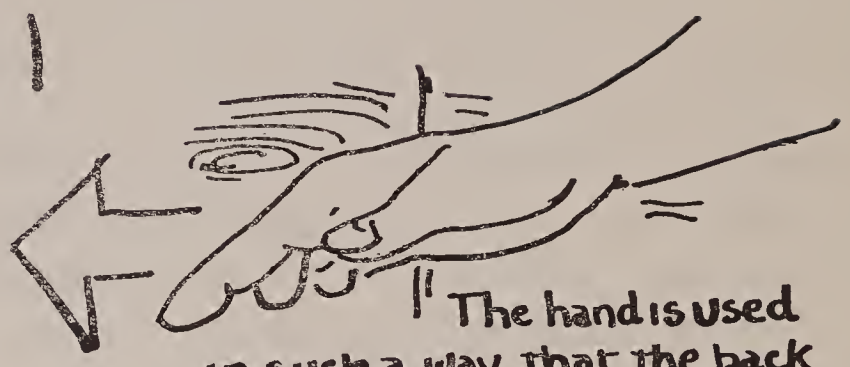
The Role of the Family in Basic Skills

Without cooperation and reinforcement on the part of the parents, little progress can be expected. Techniques taught to the child should be shown to the parents so they can follow through at home.

Arm and forearm (cross-body technique)

1. This technique affords protection for the upper trunk and the head in dangerous situations, as well as in uncontrolled areas, such as hallways where any number of doors could be open or opening. It may also be used in conjunction with trailing and later with the cane.

TRAILING



The hand is used in such a way that the back of the fingers or fingernails lightly follow over a straight surface.

Trailing can be combined with basic hand and forearm protection. Doors that are left ajar, posts and other such hazards can be avoided with this technique

2. Position. The arm is held horizontally even with the shoulder, with the upper arm sticking straight out in front. The elbow is bent so that there is about a 130° angle at the elbow. The palm of the hand faces outward, away from the student. The arm then acts as the bumper of a car. The fingers and thumb should be kept together. The tips of the fingers must extend far enough over to protect the opposite shoulder. Initially, it may be necessary to place the child's arm in proper position. Continual verbal reminders are necessary during practice until muscle memory has been developed (i.e., "Move your arm a little higher," "Bend the elbow a little more.").

Arm in lower position (the dropped-hand technique)

1. This is used to locate walls, tables, chairs, and other objects when walking toward them. In some instances, it may be substituted for the arm and forearm technique, particularly when the student is trying to locate or avoid low objects, such as desks and chairs in a classroom. It should not be used in unfamiliar areas, since it does not afford the amount of protection provided by the hand and forearm technique.

2. Position. The arm is lifted upward about 45° as in trailing. With the elbow kept straight, the arm is moved so that the hand is in the center of the body. The hand is held limply with the back facing outward (forward).

3. Procedure. Once the desired object is located, the trailing position may be easily assumed.

Additional Basic Skills

A great deal of danger and insecurity may result from improperly offered help. When the child is pushed along in front of someone, he has no idea of what is being approached. Impress upon the student that it is his responsibility to take the initiative in getting assistance in the proper way. When help is offered, it should be accepted properly and graciously. Politeness would dictate some comments, such as, "Please let me take your arm," or "It's better if we do it this way."

Techniques for Getting Directions

1. Squaring off

   a. The student aligns his body to an object for the purpose of getting a line of direction and establishing a definite position in the environment.

THE HAND AND FOREARM TECHNIQUE

The hand and forearm serve as a means of protection for the user's head and shoulders.

The lowered hand can be used in conjunction with the raised arm to locate lower objects.

b. Procedure. The student places his back or heels against a straight-edged object, such as a table, sofa, or wall to establish a definite position of departure and to determine the angle leading to a desired location.

2. Direction-taking
   a. The student gets a line or course from an object or sound to facilitate traveling in a straight line toward an object.
   b. Procedure. Using the trailing technique, the student follows an object, such as a table or wall, to the end and continues along an imaginary projected line from that object. He uses the arm and forearm technique for additional safety.

3. Other directional devices are: following a shoreline, staying on the line of a string of lights overhead or along windows, and being guided by sounds.

4. Picking up dropped objects. The student should listen and turn in the direction of the object. If possible, he should move toward it while auditory clues are still present, being sure to use adequate protection at all times. He then bends down, using the arm and forearm technique, or squats down keeping the head vertical. The object is located by placing the outspread hand on the floor in front of the body and moving it in an expanding circular pattern. If the student is not successful, he should turn right and check, and if the object is still not found, then check to the left. There should be no prodding or poking around, because that method is inefficient and gives the appearance of incompetence. If necessary, the student should take a step forward and repeat the circular pattern. To reverse directions, he should turn around and move forward, using proper protection rather than step backward.

FURTHER FORMAL MOBILITY TRAINING

Good training in basic skills gives a student the background and foundation he will need for advanced formal mobility training. The two formal programs currently recognized involve the use of canes or dogs.

Training in and facility with a cane is the result of an intensive course of study involving independent movement, travel in unfamiliar areas, use of public transportation, and advanced levels of all basic mobility skills. The instructor who works with the student must be a trained mobility specialist who understands not only the physical problems involved but also the emotional problems the student faces.

Another aid to travel used by visually handicapped individuals is the dog guide. Though the dog is well-trained, the student who works with the dog is responsible for making decisions and knowing the routes to be followed. It is generally recommended that individuals, before entering into a dog guide program, have a good background in mobility and an understanding of all basic travel techniques.

In recent years there has been considerable research in developing effective electronics devices to aid the visually handicapped individual in travel. Although these devices hold promise for the future, they are still in the experimental stage and not currently recommended for universal use.

SUMMARY

This pamphlet is designed to help all teachers and parents recognize developmental and mobility problems faced by the visually handicapped. Furthermore, it provides practical suggestions for dealing with these problems. Through the acquisition of mobility skills, the child develops confidence which aids him in acquiring positive attitudes toward himself and his role in his family, his school, and his community.

APPENDIX A

The following check list is to aid in the identification of inappropriate functioning. When a problem is identified, it is recommended that the teacher or parent refer to the appropriate section in the pamphlet.

TYPES OF BEHAVIOR

	Undesirable	Desirable
I. POSTURE		
A. Head	Bobbing	Erect
	Resting on chest or shoulders	Facing speaker or other center of interest
B. Trunk	Rocking and swaying	Shoulders back and even
	Round shoulders	Back straight
	Protruding stomach	Stomach in
C. Arms and Hands	Avoid meaningless motions	Arms hanging loosely at sides
	Fingers in eyes	Fingers relaxed and curved in
	Waving and flailing hands	Palms facing inward
	Cracking knuckles	
	Biting nails	

	Undesirable	Desirable
D. Legs and Feet	Knees bent	Legs straight but not rigid
	Toes in or out	Feet pointing forward
	Walking on sides of feet	Proper distribution of weight
II. GAIT		
A. Head	Turned to side to more accurately localize and identify sounds	Maintain correct head posture as indicated in POSTURE mentioned previously
B. Trunk	Protruding abdomen serving as bumper	Maintain correct trunk posture as indicated in POSTURE mentioned previously
	Leading with shoulder or side of body	
C. Arms and Hands	Rigid at side	In a relaxed, natural position
	Held in awkward or unnatural positions	Moving alternately with the forward movement of the legs (cross-patterning)
	Fluttering	
	Snapping fingers or clapping	
D. Legs and Feet	Leading with one foot	Maintain correct leg and foot position as indicated in POSTURE mentioned previously with proper distribution of weight from heel to toe
	Shuffling or dragging toes	
	Knees bent	
	Toes out	
	Walking on toes	
	Uneven steps	

APPENDIX B

The activities listed below are examples of some activities which visually handicapped children should be helped to learn:

Creeping
Crawling
Running
Hopping
Jumping
Skipping
Pushing
Pulling
Climbing
Swimming
Tumbling
Throwing
Catching
Swinging
Waving
Clapping
Skating
Dancing
Wrestling

APPENDIX C

ENVIRONMENTAL AWARENESS THROUGH THE SENSES

I. VISION

Does the child make efficient and consistent use of whatever vision is present? Have the recommendations of the ophthalmologist been followed? Does the child have:

A. Light perception (as coming from windows, door openings and lights — halls, room, street)

B. Recognition of objects moving simultaneously in different directions (cross-patterning):

(ability to perceive traffic patterns, people and objects not in motion — desks, chairs, parked cars)

C. Color perception (able to recognize objects or landmarks by their colors)

D. Object perception:

ability to distinguish grass from sidewalk

ability to distinguish pedestrian crossing line

ability to perceive open stairways

ability to identify (small objects, hooks, eating utensils, low fences and bushes)

ability to recognize people

ability to identify traffic signs and lights

II. HEARING

A. Distance (near and far)

B. Direction:
Can differentiate sounds coming from front, back, sides and above

C. Type or origin:
Can identify common sounds and relate them to their sources—lunchroom, typing room, shops, office, traffic

D. Interrelation of distance and sound:
Recognition of parallel traffic and perpendicular traffic

E. Intensity:
Can relate intensity to distance, speed or origin

III. TOUCH

A. Ability to use the hands and feet to identify differences in textures as:

linoleum	brick
tile	soil
cement	grass
carpeting	asphalt
gravel	metal

B. Ability to distinguish air currents and temperature differences in relation to particular areas.

IV. SMELL

A. Ability to relate odors to:

1. Specific areas —
kitchen
shops (metal and wood)
laboratories
gas station

2. Specific stores —
bakery
shoe store
cleaners
florist
delicatessen
butcher shop

3. Specific activities —
   painting
   flares indicating street repairs
   smoke
   gas leakage

APPENDIX D

AGENCIES AND RESOURCES FOR THE BLIND

Note: Most of these services are available for visually handicapped persons. The term "blind" is an historical description.

Name and Address	Function of Agency
American Foundation for the Blind, Inc. 15 West 16th St. New York, New York 10011	A national research and service agency maintained by voluntary funds. Serves as a clearinghouse for all pertinent information about blindness. Publishes numerous pamphlets giving information about services to blind persons. Develops and sells, at cost, special appliances for the blind.
American Printing House for the Blind, Inc. 1839 Frankfort Louisville, Kentucky 40206	A world-wide service supported by contributions, earnings and public funds. Prints braille books, magazines, and music. Produces large size print textbooks and magazines and manufactures special educational aids for the blind.
Blind Service Association, Inc. 127 N. Dearborn Chicago, Illinois 60601	Provides reading service, recording and transcribing for blind students. Maintains reading rooms for use of readers and students.
Catholic Charities of Chicago 126 N. DesPlaines Chicago, Illinois 60606	A parochial program supported by the Catholic Archdiocese of Chicago provides educational services to preschool through high school children, counseling for parents of the visually handicapped, plus orientation and mobility for visually handicapped children where these services are indicated.

Name and Address	Function of Agency
Catholic Guild for the Blind 67 West Division Chicago, Illinois 60610	Provides religious, recreation and braille services.
Chicago Lighthouse for the Blind 1850 West Roosevelt Chicago, Illinois 60608	Operates sheltered workshops and adjustment training center and low-vision clinic. Offers program for mentally retarded, visually handicapped young adults.
Chicago Public Library, Department of Books for the Blind and Physically Handicapped 4544 Lincoln Ave. Chicago, Illinois 60625	Regional library serving Illinois with braille and talking books.
Clovernook Printing House for the Blind 7000 Hamilton Ave. Cincinnati, Ohio 45231	Prints braille books, magazines and catalogs, such as *Boys' Life*, *The American Girl*, and *Galaxy*.
Community Services for the Visually Handicapped State of Illinois Building Room 1700, 160 N. LaSalle St. Chicago, Illinois 60601	Provides a statewide program of field services to visually handicapped persons in their own homes or in groups and for teaching, counseling, social work and related services. Offers consultative services to schools where the problem is primarily one of blindness. Provides orientation and mobility instructions to school-age children in cooperation with public schools.
Hadley School for the Blind 700 Elm St. Winnetka, Illinois 60093	Supported by voluntary contributions. Provides academic and vocational education for blind students anywhere. Home-study courses range from 5th grade through high school subjects, plus vocational, recreational and selected college credit courses.
Hope School Hazel Lane, R.R. 3 Springfield, Illinois 62707	Provides education and training for multiple handicapped blind children, aged 4 to 18 years.

Name and Address	Function of Agency
Howe Press of Perkins School for the Blind 175 N. Beacon St. Watertown, Massachusetts 02172	Serves persons in any country with embossed braille books. Manufactures appliances and games, miscellaneous educational equipment and the Perkins Brailler.
Illinois Braille and Sight Saving School 658 E. State Jacksonville, Illinois 62650	A state-supported school operating under the Illinois Department of Children and Family Services. Provides free training for educable children of Illinois, whose sight is so defective that they cannot progress in regular schools for sighted children.
Illinois Department of Children and Family Services 404 New State Office Building 401 S. Spring St. Springfield, Illinois 62706	This department provides social services to children and their families; operates schools and institutions for blind, deaf, and physically handicapped and dependent children.
Illinois Department of Public Aid 203 New State Office Building Springfield, Illinois 62706	A federal-state program of financial assistance to the blind. Application should be made at local county office.
Illinois Office of Public Instruction 316 S. 2nd St. Springfield, Illinois 62706	Provides consultant services to day schools and residential schools. Reader service provided in school districts where no special program exists. For information consult Program Development and Evaluation, Department of Special Education, locally.
Illinois Division of Vocational Rehabilitation 623 E. Adams St. Springfield, Illinois 62701	Administers the federal-state program of vocational rehabilitation which provides for diagnostic, counseling, training, placement, and related services. Financial aid is offered to qualified students who meet specific requirements.

Name and Address	Function of Agency
Illinois Visually Handicapped Institute 1151 S. Wood St. Chicago, Illinois 60612	Provides institutional, educational and vocational services to visually handicapped persons, ages 18 to 60, who reside in Illinois. Offers six weeks summer program in orientation and mobility for school-age children.
Illinois Educational Materials Coordinating Unit 410 S. Michigan Chicago, Illinois 60605	A clearinghouse of information and a statewide lending library of specially adapted educational materials, including braille books, large type books, and tape recordings for visually handicapped children and adults. Requests for materials to be used by school-age children should originate from the school superintendent or someone designated by him. For further information contact the Director, Educational Materials Coordinating Unit, 410 S. Michigan, Chicago, Illinois 60605.
Johanna Bureau for the Blind and Visually Handicapped, Inc. 410 S. Michigan Chicago, Illinois 60605	Transcribes materials from print to braille for blind students; also does tape recordings of printed materials.
Lions International 209 N. Michigan Chicago, Illinois 60601	An international association of business and professional men with a major service interest in the blind. Publishes the *Lion Juvenile Braille Magazine*, supplies various types of equipment and aid to blind persons through its local clubs.
National Braille Press, Inc. 88 St. Stephen St. Boston, Massachusetts 02115	Nationwide service. Publishes braille magazines. Records at 16⅔ R.P.M. textbook and educational materials primarily for blind high school and college students. Books done at specific request. Recording units in 16 cities.

Name and Address	Function of Agency
Recording for the Blind, Inc. 215 E. 58th St. New York, New York 10022	Serves the United States. Supported by voluntary contributions and funds. Records at 16⅔ R.P.M. textbooks and educational materials principally for blind high school and college students.
Volunteer Service for the Blind, Inc. 332 S. 13th St. Philadelphia, Pennsylvania 19107	Non-sectarian. Supported by voluntary funds. Furnishes braille and sound recordings on disc or tape. Provides recording services for blind students. Produces the braille edition of *Jack and Jill*, also miscellaneous magazines.

APPENDIX E

EXERCISE SETS ON RECORDINGS

(designed for all children)

1. "Chicken Fat." Capitol Record (CF-1000; LB-738). 1 record. For elementary and junior high. Under $1.50. Order from any record shop. Distributed free to many school systems by the Junior Chamber of Commerce, Washington, D.C.

2. "Exercises for Fitness and Fun." 78 R.P.M. $7.00. Twelve exercises in a schoolroom experience for elementary children. Order from Lyons, 223 West Lake Street, Chicago, Illinois 60606.

3. "Honor Your Partner," by Ed. Durlacher. Physical Exercise Records. 3 albums; 4 records to each album. $12.00 each album. 78 R.P.M. Album 14 — Primary Children; Album 15 — Elementary and Junior High School; Album 16 — Girls' Junior High through College. Order from Lyons, 223 West Lake Street, Chicago, Illinois 60606.

4. "Listening and Moving Body Awareness," by Dorothy Carr. Published by Educational Activities, Inc., Freeport, New York.

5. "Nothing to Do." 1 record. 78 R.P.M. $1.24. For young children, kindergarten through third grade. Order from Children's Record Guild.

6. "Nutcracker Suite for Dancing." Bantam Junior Label (313/-3178). 1 record. For preschool and elementary children. Order from Educational Audio Visual, Inc., New York, N.Y.

7. "Rhythm Records":

   Physical Fitness for Preschool Children (RRC-703)

   Physical Fitness for Primary Children (RRC-803)

   Physical Fitness for Intermediate Grades (RRC-903)

   Order from F. A. Owen Publishing Company, Dansville, New York, or from The Rhythm Record Company, 9203 Nichols Road, Oklahoma City, Oklahoma.

APPENDIX F

REFERENCES

A Guide for Parents of a School-Age Blind Child. Commission for the Blind, New York State Department of Social Welfare, New York, N.Y. No date.

Bauman, Mary K., and Yoder, Norman M. *Adjustment to Blindness Re-Viewed.* Charles C. Thomas, Springfield, Illinois, 1966.

Buell, Charles E. *Physical Education for Blind Children.* Charles C. Thomas, Springfield, Illinois, 1966.

Farrell, Gabriel. *The Story of Blindness.* Harvard University Press, Cambridge, Massachusetts, 1956.

Gray, Doris. *Helping the Blind Child Accept Limitations.* Commission for the Blind Booklet No. 206, New York State Department of Social Welfare, New York, N.Y., 1963.

Krebs, Mrs. Gordon J. *The Blind Child in Kindergarten.* Commission for the Blind Booklet No. 202, New York State Department of Social Welfare, New York, N.Y., 1963.

Lowenfeld, Berthold. *Our Blind Children: Growing and Learning with Them.* Charles C. Thomas, Springfield, Illinois, 2nd Ed., 1964.

Ross, Ishbell. *Journey into Light.* Appleton-Century-Crofts, New York, 1951.

Russell, Robert. *To Catch an Angel: Adventures in the World I Cannot See.* Vanguard Press, 1962.

Whitstock, Robert H. *Orientation and Mobility for Blind Children.* Commission for the Blind Booklet No. 204, New York State Department of Social Welfare, New York, N.Y., 1963.

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